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[54] **FLEXIBLE LIQUID CRYSTAL DISPLAY WITH INTEGRATED DRIVER CIRCUIT AND DISPLAY ELECTRODES FORMED ON OPPOSITE SIDES OF FOLDED SUBSTRATE**

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[58] **Field of Search** 359/82, 87, 88, 74, 359/83, 81, 89

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[57] **ABSTRACT**

A liquid crystal display (LCD) package (**10**) is made by creating an indium/tin oxide electrode (**64**) on the surface of a flexible substrate (**60**). The electrode is connected to conductive vias (**68**) in the flexible substrate by conductive runners (**66**) that are also indium/tin oxide with an overlayer of copper. The indium/tin oxide is typically sputtered, and the copper is sputtered or plated on selected portions of the runners. The conductive vias are further connected to a circuitry pattern (**62**) on an opposite side of the flexible substrate. A display driver (**70**) is attached to the circuitry pattern to drive the LCD (**5**). A second substrate (**80**), also with a film electrode (**82**) on it, is arranged in mutually opposing planar relationship to the flexible substrate in order to form a liquid crystal display. A liquid crystal material (**86**) is then filled in the gap between the two substrates creating an LCD module (**10**). The LCD module can be folded about a portion (**72**) of the flexible substrate so that the display driver circuit is directly underneath the film electrode. An adhesive bonding agent (**77**) is used to retain the flexible substrate in the folded position.

4 Claims, 7 Drawing Sheets